

between *Merope* and *Alcyone*, first detected by Dr. Common with the 36-inch reflector.

Mr. Pratt was also a contributor to the *Astronomical Register* and other journals, and supplied regular weather reports to a local newspaper.

In August, 1890, his health having broken down, he decided, on the recommendation of his medical adviser, to leave Brighton and settle at Crowborough, Sussex. This intention he was never able to carry out, as his strength gradually failed, and on March 7, 1891, he died at Brighton, in the fifty-third year of his age.

He was elected a Fellow of this Society on April 12, 1872.

EDWARD WILLIAMS SNELL was born at Maker, Cornwall, in the year 1834. At the age of eighteen he went to Dr. Burney's School at Gosport, where he prepared pupils for the Army and Navy; and in 1859 he became mathematical master at the Royal Hospital School, Greenwich, from which post he retired in 1870. For the last eighteen years of his life he was conductor of a private school at Blackheath, where, owing to his untiring energy and the help he was always ready to give his pupils, he was particularly successful in preparing them for examinations, and gained their lasting affection. Mr. Snell had only just retired from work when he was attacked by a painful illness, which caused his death July 7, 1891, at the age of fifty-seven. He was elected a Fellow of this Society March 10, 1871.

EDUARD SCHÖNFELD* was born at Hildburghausen, in the Duchy of Meiningen, on December 22, 1828. His mother taught him to read, and he appears to have taught himself the rudiments of arithmetic. Later on, when he went to the Gymnasium of his native town, he could give assistance to the pupils of the highest classes in mathematics. Following the usual curriculum of the school, he remained two years in the senior class before attaining the legal age for the final examination. On leaving the Gymnasium, young Schönfeld expressed his desire to study astronomy, but abandoned the idea at the time, at the wish of his father, who considered it a profession without prospects, and, by the advice of his uncle, he studied architecture, first at the Polytechnical School at Hanover, and then at Cassel.

In the spring of 1849 he worked in the chemical laboratory at Marburg under Bunsen, but his former love for astronomy was revived by Gerling's lectures, and, making it his sole study, he translated the first book of the *Mécanique Céleste* and the *Theoria Motus* during his residence at Marburg. His first astronomical observation was an occultation of γ *Arietis*, made on November 29, 1849. In 1851 Schönfeld availed himself of an opportunity to visit the Bonn Observatory, and the charm of

* Abridged from an article by Prof. Krueger in *Vierteljahrsschrift*, Jahrgang xxvi., Heft. 3.

Argelander's personality was so great that on his return to Marburg he wrote to him of his great desire to study at Bonn. Argelander received the proposition most warmly, and at Easter, 1852, Schönfeld matriculated at Bonn, and attended Argelander's lectures. He also observed diligently, and took part in reductions of observations of newly-discovered planets and comets. Argelander had such confidence in Schönfeld's ability that he appointed him to a vacant assistantship, though he had not yet taken his degree. In the following year, 1854, Schönfeld won his doctorate with distinction by his treatise *Nova Elementa Thetidis*.

We now come to an important event in Schönfeld's life—viz., his connection with the Bonn Survey of the Northern Heavens, in the successful completion of which he had so great a share, even after he had left the Bonn Observatory. In the accuracy of his observations and scrutiny of the results he vied with his great master, and he never lost courage, even when the strain of observing throughout the night and reducing the results in the day became almost too severe. After the Bonn Survey Schönfeld turned his attention to the light-changes in variable stars, a problem that was at that time exciting the interest of astronomers, owing to the discovery of new stars and the observations of Argelander. Schönfeld availed himself of Argelander's simple and trustworthy methods, and the evenings which could not be utilised for zone work, on account of moonlight, were employed in making as complete observations as possible of the minima of *Algol* and *SCanceri*. Schönfeld now became a Privat-Docent in the University, but did not long exercise this function, for in 1859 he was appointed Director of the Mannheim Observatory, through the influence of Eigenlohr, who applied to his friend Argelander for advice. The Mannheim Observatory must have seemed antiquated when compared with the convenient and perfectly-arranged observatory at Bonn. From its position and construction it was almost impossible to mount satisfactorily even a single instrument that would be capable of good work, and Schönfeld had to be contented with a small parallactic refractor of Steinheil's of 73 lines aperture. His chief work with this instrument was on nebulae and variable stars; he also observed comets and new planets with regularity. With regard to nebular work, Schönfeld chose the objects to be observed, with few exceptions, from Herschel's Catalogue, on the ground that these could be sufficiently well observed with his refractor. He connected the nebulae with the neighbouring stars by successive ringmicrometer determinations. Four hundred and eighty-nine observations of nebulae by Schönfeld are collected in two volumes of the publications of the Mannheim Observatory, published in 1862 and 1875 respectively. His researches on variable stars are published in two catalogues in the *Jahresberichte* of the Mannheim Physical Society, Nos. 32 and 39, dated respectively 1866 and 1875. The first catalogue

comprised 119 stars, the second 143, for which the variability had been ascertained.

Schönfeld was a member of the *Astronomische Gesellschaft* from its foundation in 1863, and from 1863 to 1869 was a member of the Council, but without any special office. In 1875, in conjunction with Winnecke, he undertook the duties of Secretary of the Society and Editor of its publications, and also the preparation of the ephemerides of variable stars.

On the death of his master and life-long friend, Argelander, which occurred on February 17, 1875, Schönfeld was appointed Director of the Bonn Observatory and Professor in the University.

Shortly after entering on his new office he began preparations for an extensive work—the greatest and last of his life—i.e., the extension of the Survey of the Heavens to 23° South Declination. The experience gained in the Northern Survey gave opportunity for the introduction of newer and more convenient methods. Schönfeld determined to use a more powerful telescope—one of Schröder's refractors of 70 lines aperture. The use of a higher magnifying power necessitated a smaller field of view, and consequently narrower zones and a greater number of them; but the gain in accuracy of position was important, as well as the diminution of the danger of omitting stars in a rich field. Schönfeld himself superintended both observations and revision. From 1875 to 1881 610 zones were observed, and by February, 1884, 16 zones more were added, which, with the preceding zones, comprised 700 hours in Right Ascension. These observations furnished 363,932 single-star places as basis of a catalogue of 133,659 stars, which is published in vol. viii. of the *Bonn Observations*.

It is perhaps to be regretted that the Northern Survey had not been carried out in the same manner—i.e., with smaller zones and a more powerful telescope, an illuminated field, and, as far as possible, the same observer. But it was scarcely to be expected that one and the same observer should persevere through long years at the same work. All praise is due to Schönfeld, who attempted this survey, and carried it out in its smallest details. He was an extremely hard worker. It often happened during long periods that he remained almost uninterruptedly at his work from nine in the morning till three at night. Yet to him his work never seemed to progress fast enough. The 8th volume of the *Bonn Observations* appeared in 1886—in spite of the most strenuous exertions he could not publish it sooner.

His strong sense of duty and his learning, as profound as that of the greatest astronomer of our time, procured for Schönfeld a pre-eminent position among his colleagues at the University, and his benevolent and unassuming character gained him many friends. Through the *Astronomische Gesellschaft* he was brought into friendly relations with both old and young colleagues in his profession. He took part in the twenty-fifth

anniversary of the Pulkowa Observatory, and seized the opportunity of making the acquaintance of the astronomers there. In 1887 he attended the first Paris Congress for the photographic chart of the Heavens, and took part in the discussions. In 1889 he again went to Pulkowa, on behalf of the Prussian Minister of Education, to convey the congratulations of the German astronomers on the occasion of its Jubilee. Schönfeld was not permitted by his doctor to attend the meeting of the Gesellschaft, held at Brussels in the same year. To this meeting was sent to him from America the Watson Medal—a mark of esteem that he valued most highly. In 1891 it became apparent that Schönfeld was seriously ill, and on May 1 he died, after protracted suffering. He was elected a Foreign Associate of this Society November 8, 1878.